Case Report / Olgu Sunumu

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Acute Abdomen Secondary to a Warfarin-Related Intramural Small Bowel Hematoma: A Case Report and Review

Warfarin ile İlişkili İntramural İncebarsak Hematomu Sonucu Gelişen Akut Batın: Bir Olgu Sunumu ve Literatüre Bakış

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Abstract / Özet

Warfarin inhibits the effects of vitamin K and is commonly used for oral anticoagulation. Hemorrhage remains the major problem related to anticoagulant therapy.These complications occur in 10% of hospitalized patients and 40% of outpatients, approximately one-fifth being major haemorrhages. The symptoms of anticoagulant-induced intramural hemorrhage develop over several days, and include constipation, nausea, vomiting, abdominal pain, and other features of partial or complete intestinal obstruction. A 48-year old male was admitted to our emergency service with progressive abdominal pain and vomiting. He reported the frequent use of a drug as a pain killer, however it was warfarin (Coumadin 5 mg, Zentiva). Since the abdominal examination revealed rebound and tenderness, a laparotomy was performed immediately after the administration of vitamin K and 2 units of fresh frozen plasma (FFP). A jejunal intramural hematoma which had caused a mechanical intestinal obstruction was observed, and an anastomosis was performed after a segmentary resection.

Anahtar Kelimeler: Acute abdomen, warfarin, intramural small bowel hematoma

Warfarin K vitamini antagonistik etkisi ile oral antikoagülasyon amacıyla kullanılır. Antikoagülan ilaç kullanımında en önemli problem kanamadır. Bu komplikasyon hastanede yatan hastalarda %10, ayaktan hastalarda %40 oranında görülür, bu kanamaların 5 te 1'i majör kanamadır. Antikoagülanların tetiklediği intramural ince barsak hematomu genellikle kademeli olarak başlar, günler içinde ağırlaşır ve kabızlık, kusma, karın ağrısı ve intestinal obstrüksiyonun diğer belirtileri görülür. Kırk sekiz yaşında erkek hasta acil servise ilerleyen karın ağrısı ve kusma ile başvurdu. Hasta sık sık ağrı kesici olarak bildiği warfarin (Coumadin 5 mg, Zentiva) kullandığını ifade etti. Batın muayenesinde rebound tespit edilen hastaya K vitamini ve 2 ünite taze donmuş plazma verilerek acil laparatomi yapıldı. Jejunumdaki intramural hematomun barsak obstrüksiyonuna neden olduğu görülerek segmenter rezeksiyon ve uc-uca anastomoz uygulandı. İnce barsak hematomuna tanı koymak için öncelikle şüphelenmek gerekir. İnce barsak intramural hematomunun herhangi bir radyolojik ve klinik özelliği yoktur, antikoagülan kullanan bir hastada bu tanı da akılda tutulmalıdır.

Key Words: Akut batın, warfarin, intramural incebarsak hematomu

Introduction

Warfarin inhibits the effects of vitamin K and is commonly used for oral anticoagulation. Oral anticoagulants, since the introduction of Dicumarol in 1941, have been widely used in medical practice. These include short-term or long-term therapeutic modalities following deep vein thrombosis, pulmonary embolus, myocardial infarction and cerebral vascular disease (1). Hemorrhage remains the major problem related to anticoagulant therapy,these complications occur in 10% of hospitalized patients and 40% of out patients, approximately one-fifth being major haemorrhages (3). They frequently present with hematuria, ecchymoses or epistaxes, and are fortunately not life-threatening. Less frequent but more serious sites of bleeding are the intestinal tract, brain, adrenal glands, and epidural and pericardial spaces. Anticoagulants can cause intraluminal and intramural hemorrhages (4). Haematemesis and melena are common findings if the bleeding occurs directly into the bowel lumen, however the diagnosis is a challenging problem when the patient presents with an intramural intestinal hemorrhage. The symptoms of anticoagulant-induced intramural hematoma of the small bowel are usually gradual in onset, increasing in severity over several days, and include constipation, nausea, vomiting, abdominal pain, and other features of partial or complete intestinal obstruction. As many as half the patients may fortunately be asymptomatic, since the symptoms depend on the rapidity of the onset of bleeding and its amount (5). Many surgeons face patients with intramural bleeding in emergency rooms, and sometimes these cases require urgent laparotomies secondary to intestinal obstruction or intraabdominal bleeding due to the perforation of the hematoma.

In this paper, a patient with an intramural jejunal hematoma related to anticoagulant use is presented. He was admitted to the emergency room with intestinal obstrcution, and underwent resection of the hematoma at the time of surgery.

Case Report

A 48-year old male was admitted to our emergency service with progressive abdominal pain and vomiting. His previous medical history consisted of no illness but he complainted of frequent backpain and headache. He reported the frequent use different pain killers, and recently he took Warfarin (Coumadin 5 mg, Zentiva) which he supposed to be a painkiller. The laboratory finding

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revealed that the International Normalisation Ratio (INR) was 4.5 and prothrombin time was 26 seconds (n:11-15). A digital examination of the rectum and a nasogastric suction ruled out an active bleeding, however a mild anemia (Hb: 11.7 gr/dL) was observed. A computerized tomography showed a segmentary jejunal wall thickness and dilated intestinal loops (Figure 1). Since the abdominal examination revealed rebound and tenderness, a laparotomy was decided on. Clinical findings and the necessity of an operation were explained to the patient and his relatives and informed consent was obtained. Laparotomy was performed immediately after the administration of vitamin K and 2 units of fresh frozen plasma (FFP). A jejunal intramural hematoma which had caused a mechanical intestinal obstruction was observed, and an anastomosis was performed after a segmentary resection. The use of vitamin K and FFP was continued postoperatively until the laboratory findings were normalized, and the patient was discharged from hospital on day 7 after an uneventful coverage. The pathological examination revealed a jejunal intramural hematoma.The patient had no related symptoms during 12 months of follow-up.

Discussion

Intestinal obstruction due to intramural haemorrhage is a rare but well recognized condition, usually affecting the duodenum and small bowel (6). Intramural hematoma are usually caused by abdominal trauma, while nontraumatic cases are associated with the use of antcoagulants generally (7). Since Berman and Mainella first recorded a small bowel intramural haematoma secondary to anticoagulant therapy in 1952, there have been numerous similar reports (6). A study was reported where one patient's use of anticoagulant was 2500 with intramural small bowel hematoma in Switzerland (8). Vitamin K antagonists are the drugs usually involved, although some cases secondary to heparin therapy have been reported (9). Anticoagulant drugs therapeutic range is extremely narrow and patients are monitored with close INR measurements (10).

In this case, patient had no illness requiring the use of Warfarin but he complained of back pain and hedache thus he took this pill as a painkiller. He did not know that it has an anticoagulant effect. The therapeutic range for his patient was notdetermined After two units of FFP administration INR returned to within the normal range, the patient's previous medical history did not have bleeding diathesis. Users of anticoagulant drugs can present with hemorrhage when the INR is not in too extreme a range. For all these reasons investigation for other bleeding diastesis such as Von willebrand disease, idiopathic thrombocytopenic purpura, lymphoproliferative disease were performed.

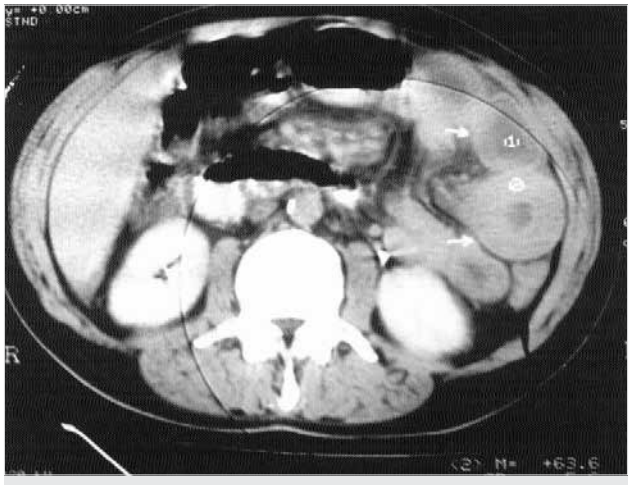

Figure 1. A computerized tomography showed segmentary jejunal wall thickness and dilated intestinal loops

All portions of the bowel can be involved, from the duodenum to the rectosigmoid, but the jejunum is the most common site, as observed in the presented patient. The submucosa is the layer of the bowel which is involved with hemorrhage and becomes extensively thickened. The lumen is correspondingly narrowed. The mucosa is usually intact, and the large and small mesentery vessels remain patent. Suspicion of intestinal intramural hematoma is the first step in the diagnosis of patients. Neither the clinical nor the radiological features are in themselves diagnostic of intramural haematoma, but when found together in a patient who is on anticoagulant therapy, the diagnosis can usually be made with confidence (11).

In this case an intramural hematoma in the jejunum was detected and due to this event presented with proximal intestinal obstruction and acute abdominal symptoms.

Laboratory test findings are also nonspecific (12). They can include anemia, elevated serum bilirubin and amylase concentrations, and leukocytosis. The prothrombin time (PT) is usually markedly elevated. In healthy individuals, INR is about 1. According to the patient's disease, clinicians determine the therapeutic range of INR. Generally, in patients with deep venous trombosis, pulmonary emboli, atrial fibrilation, cerebral or cardiac vasculary disease, the targetted INR levels are 2-3, patients with prosthetic heart valve INR 2.5-3.5 (13).

Palereti et al. (14) claimed that increased INR increases the hemorrhagic risk, when INR levels is over 7, hemorrhagic risk increases 40 times,when INR is 2-2, risk is 9 and 20 times at INR 3-4, 4. Otherwise Denizbaşı et al. (15) explained that there was no detected correlation between INR levels and severe hemorrhage. Levine et al. (16) reported that,even if protrombin time is within the therapeutic range there could be a major hemorrhage, any relationship anticoagulant effect and frequency of hemorrhagie and major hemorrahagie (16).

Abdominal ultrasanography and computorized tomography seem to be the most effective radiologic studies for recognizing this condition. On sonography, masses in the intestinal wall appear as round or nonperistaltic tubular masses with a central echogenic core of compressed mucosa surrounded by an anechoic halo that corresponds to the bowel wall thickened by the infiltration of hemorrhage. Abdominal computed tomography (CT) reveals two additional signs commonly seen in intrarnural hematoma: the "coiled spring" sign and the pseudokidney sign. Although these signs are not pathognomonic, they have a high diagnostic accuracy in the right clinical context in patients who have had anticoagulation therapy (17). Ultrasonographic evaluation is nonspecific and variable but CT is extremely sensitive and detects the presence of hematoma in about 100% of cases (18).

Abdominal CT showed a thickened bowel wall and dilated intestinal loops in our patient. This finding helped us finalize our decision for emergency surgical intervention. The first step in the therapy is to stop the administration of anticoagulant drugs and correct the patient's coagulation parameters with fresh-frozen plasma and vitamin K. It has been shown that from 2 to 4 units of

fresh-frozen plasma and vitamin K treatment correct coagulation parameters within 72 hours. We adminidtered FFP and vitamin K to the present case immediately after hospitalisation and they were continued after the operation.

Altınkaya et al. (19) reported two cases who were cured with non-surgical medical treatment. They were treated succesfully with concervative management which included nasogastric decompression, Warfarin withdrawn and fresh-frozen plasma. Six patients with intramural small bowel hematoma were reported retrospectively by Carkman et al. Anticoagulation therapy was responsible for intramural hemorrhage in 5 of 6 and factor VIII deficiency was responsible for intramural hemorrhage in 1 of them. Patients with intramural hematoma most commonly present with symptoms of acute abdominal pain, vomiting and nausea. Five of the patients were diagnosed by abdominal computed tomography. Four patients were cured with non-surgical therapy and surgical intervention due to acute abdomen was performed in 2 patients (20).

Sorbello et al. (18) reported a study case and review of 21 articles in the literature, they found that the average age is 57.6 and 60% of cases are male, the most common complaint is abdominal pain, and the jejunum is the sit of most localized hematoma (71.6%), abdominal CT is very efficient for diagnosis and prevents unnecessary surgical intervention. Previously diagnosis of these cases was usually confirmed at laparotomy. In recent years, owing to accurate preoperative diagnosis, medical treatment could be sufficient in the absence of peritonitis, severe hemorrhage and ischemia. (21). Reported articles like this case in the literature are multiplying due to increased anticoagulant drugs users and the presence of imaging methods for diagnosis (18).

As in our case even if an anticoagulant drug is not precribed to patients, physcians should obtain detailed accounts of all medications taken by patients and routine protrombin time and INR should be measured preoperatively

Conclusion

Although intramural intestinal hematoma is a rare complication of anticoagulant therapy, it should be kept in mind when a patient under anticoagulant treatment presents with intestinal obstruction findings such as vomiting, and abdominal pain and acute abdomendevelops. These patients and their relatives should be informed about the potential complication of these drugs and the dosages should be explained in details.It should be recommended to patients that they must not take medicine whose effects are not known exactly.

Conflict of Interest
No conflict of interest was declared by the authors.

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Informed Consent: Written informed consent was obtained from patient who participated in this study.

Author Contributions
Concept - M.Ö.; Design - M.Ö., Z.Ö.; Supervision - Z.Ö.; Funding - M.E.; Materials -Z.Ö., M.K.; Data Collection and/or Processing - M.Ö., Z.Ö.; Analysis and/or Interpretation - M.Ö., Z.Ö.; Literature Review - Z.Ö.; Writing - M.Ö., Z.Ö.; Critical Review - M.K.; Other - M.E.

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Yazarlar herhangi bir çıkar çatışması bildirmemişlerdir.

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